

# THE FRESHWATER AMPHIPODA (CRUSTACEA) OF SOUTH AND SOUTH WEST AFRICA

By

CHARLES L. GRIFFITHS

*Zoology Department, University of Cape Town*

(With 8 figures)

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## ABSTRACT

Sixteen species and one variety of freshwater Amphipoda are recognized, of which two, *Paramelita flexa* sp. nov. and *Sternophysinx alca* sp. nov., are described as new. The fauna is composed of three taxonomically and geographically distinct elements—a single species of Ingolfiellidae recorded from South West Africa, a group of three *Sternophysinx* species which occur in the Transvaal, and twelve species and one variety of *Paramelita* which are restricted to the south-western Cape Province.

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## INTRODUCTION

The freshwater amphipod fauna of South Africa was last reviewed by Barnard (1927), who recorded a total of eleven species and one variety, all but one of which were assigned to the genus *Gammarus* (= *Paramelita*). The taxonomic positions of all these species have subsequently been revised, and four further valid species and one invalid species have been described from the southern African region. Considerable collections of unidentified material have also accumulated. The time thus appears opportune for an updated review of the fauna and of the distribution records of the various species. In the course of such an analysis the collections of the South African Museum, Cape Town and the Albany Museum, Grahamstown, as well as material sent by A. J. Cannone of the University of the Witwatersrand have been examined. The material includes a number of new locality records as well as two new species, which are described below. The opportunity is also taken to provide keys to the known species of *Paramelita* and *Sternophysinx*, and to illustrate the taxonomically important features of each species.

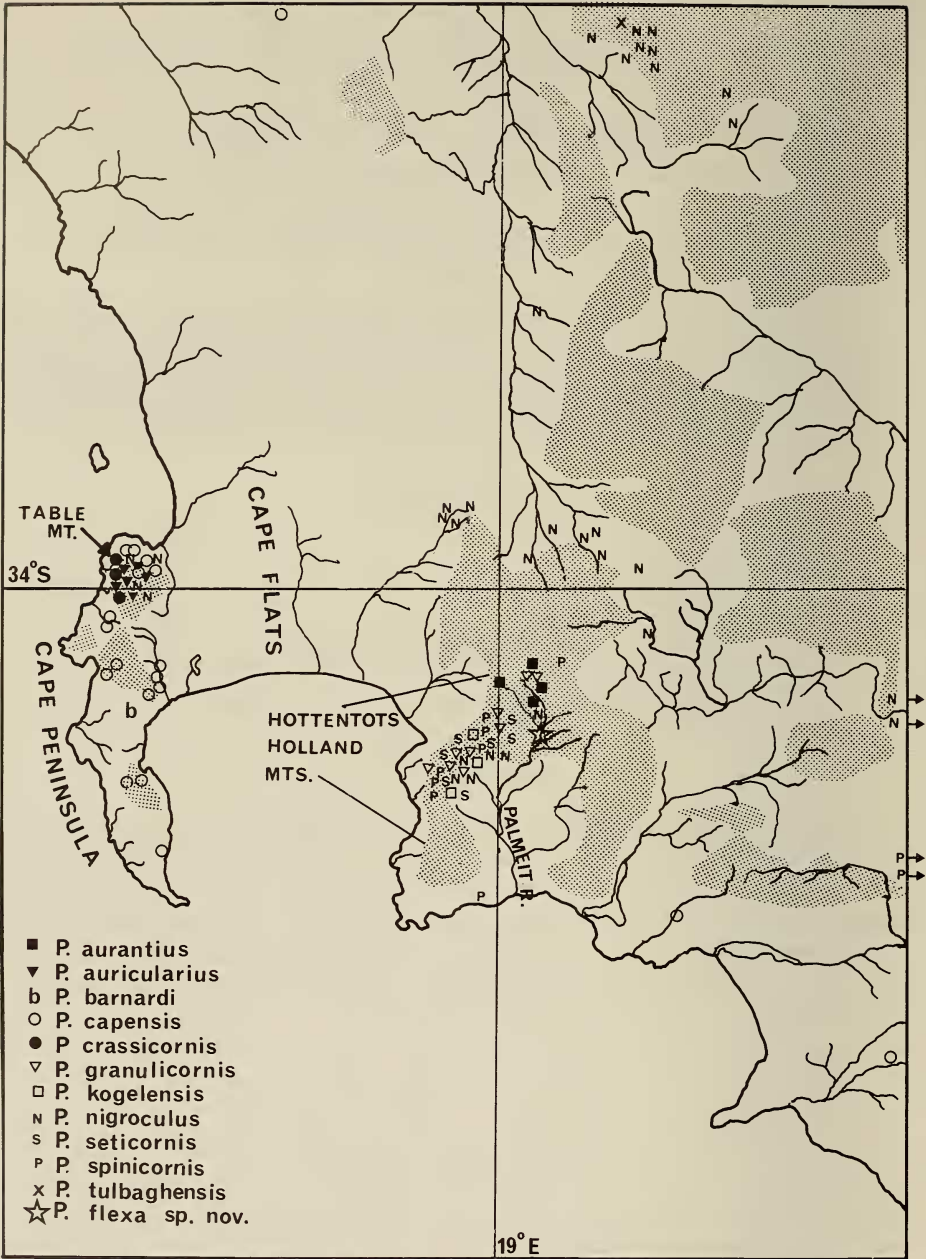


Fig. 1. Map of the south-western Cape Province showing distribution records of *Paramelita* species.

Only truly freshwater and subterranean species are included in this analysis, estuarine forms having been treated by Griffiths (1976). The freshwater fauna is clearly divided into three elements. Of these the ingolfiellid *Leleupiella* is known only from northern South West Africa, *Sternophysinx* (three species) is recorded only from the Transvaal, and *Paramelita* (twelve species and one variety) is restricted to the south-western Cape.

In accordance with modern practice, the pereopods are numbered 3–7, so that they correspond to the pereon segments on which they occur. It should be noted that, while this system is used by Holsinger & Straskraba (1973) and Thurston (1973), authors such as Methuen (1911*a*, 1911*b*) and Barnard (1916, 1927, 1966) number the pereopods 1–5.

## SYSTEMATICS

### KEY TO THE GENERA OF SOUTHERN AFRICAN FRESHWATER AMPHIPODA

1. Body vermiform, coxae minute, widely separated, pleopods reduced to small lobes . . . . . *Leleupiella* (p. 96)  
Body laterally compressed, coxae well developed, contiguous or overlapping, pleopods large, biramous . . . . . 2
2. Coxae not overlapping, pereon segments 2–7 with bladder-like medioventral processes . . . . . *Sternophysinx* (p. 91)  
Coxae overlapping, pereon segments bearing accessory gills but lacking medioventral processes . . . . . *Paramelita* (p. 81)

### Superfamily CRANGONYCTOIDEA Bousfield, 1973

#### Family Paramelitidae Bousfield, 1977

#### *Paramelita* Schellenberg, 1926

The species described by Barnard (1916, 1927) were transferred from *Gammarus* to *Paramelita* by Schellenberg (1937). In a revision of the family Gammaridae, Bousfield (1977) subsequently placed this genus in his new family Paramelitidae.

*Paramelita* spp are restricted to fully freshwater habitats, both in surface streams and in caves. All known records are from the south-western Cape Province, South Africa. The recorded distribution patterns within the genus are given in Figure 1.

### KEY TO SPECIES OF *PARAMELITITA*

- 1 Eyes conspicuous, black (Fig. 6A–B) . . . . . 2  
Eyes small, white, invisible in preserved material (Fig. 4A) . . . . . 3
- 2 Posterior margins of antenna 2 and pereopods 2–7 densely setose posteriorly, especially in ♂ (Fig. 6A) . . . . . *nigroculus* var. *persetosus*  
Posterior margins of antenna 2 and pereopods 3–7 moderately setose, lacking setal brushes (Fig. 6B) . . . . . *nigroculus*
- 3 Peduncle of antenna 2 ♂ greatly enlarged and/or with articles 3 or 4 posterodistally lobed or toothed (Fig. 3A, D–E) . . . . . 4  
Peduncle of antenna 2 ♂ not enlarged, articles 3 and 4 not lobed or toothed (Figs 4A, 2D) . . 8

- 4 Article 3 of antenna 2 ♂ posterodistally lobed (Figs 3A, 5A).....5  
 Article 3 of antenna 2 ♂ not lobed.....6
- 5 Antenna 2 ♂ linear, coxa 4 quadrangular, pereopod 3 chelate in adult ♂ (Fig. 3A-C)....  
*auricularius*  
 Antenna 2 ♂, article 5 attached at right angles to 4, coxa 4 posteriorly excavate, pereopod  
 3 ♂ normal (Fig. 5A, G).....*flexa* sp. nov.
- 6 Antenna 2 ♂, article 4 with a strong posterodistal tooth, article 5 attached normally to 4  
 (Fig. 3D) .....*spincornis*  
 Antenna 2 ♂, article 4 not toothed, article 5 bent at right angles to 4 (Fig. 3E).....7
- 7 Coxa 4 not posteriorly excavate, dactyls of pereopods 3-7 each with a single spinule  
 (Fig. 3F-G).....*crassicornis*  
 Coxa 4 distinctly excavate posteriorly, dactyls of pereopods 3 and 4 with two spinules, of 5  
 with three spinules and of 6 and 7 with four spinules (Fig. 3H-I).....*tulbaghensis*
- 8 Palm of gnathopod 2 distinctly oblique (Fig. 2A).....9  
 Palm of gnathopod 2 transverse or slightly oblique (shorter than hind margin) (Fig. 2I-J)  
 10
- 9 Coxa 4 strongly excavate posteriorly, uropod 3 strongly setose (Fig. 4A-B).....*capensis*  
 Coxa 4 shallowly excavate posteriorly, uropod 3 spinose, not setose (Fig. 2B-C)..*barnardi*
- 10 Coxa 4 distinctly excavate posteriorly (Fig. 2E).....11  
 Coxa 4 quadrate, lacking posterior excavation (Fig. 2H).....12
- 11 Peduncle of antenna 2 densely setose posteriorly, article 2 of outer ramus of uropod 3  
 obsolete (Fig. 2D, F).....*seticornis*  
 Peduncle of antenna 2 not strongly setose, outer ramus of uropod 3 with distinct second  
 joint (Fig. 2G) .....*kogelensis*
- 12 Article 2 of gnathopod 2 with a group of spines on posterior margin, palm strongly convex,  
 with distinct defining tooth (Fig. 2I).....*granulicornis*  
 Article 2 of gnathopod 2 not spinose, palm moderately convex, lacking defining tooth  
 (Fig. 2J) .....*aurantius*

*Paramelita aurantius* (K. H. Barnard, 1927)

Fig. 2J

*Gammarus aurantius* Barnard, 1927: 173-174; pl. 10, figs 6, 16.

*Remarks*

One of a closely related group of species comprising *P. aurantius*, *P. granulicornis*, *P. kogelensis*, and *P. seticornis*. Distinguished by the quadrate coxa 4, sparsely setose antenna 2, and absence of a defining tooth and of spines on gnathopod 2.

*Distribution*

Hottentots Holland Mountains, south-western Cape.

*Paramelita auricularius* (K. H. Barnard, 1916)

Fig. 3A-C

*Gammarus auricularius* Barnard, 1916: 209-210, pl. 27, figs 26-68; 1927, 169-170.

*Remarks*

The ear-like lobe on article 3 of antenna 2 ♂ distinguishes this species from all others except *P. flexa* sp. nov., from which it differs in the shape of coxa 4,

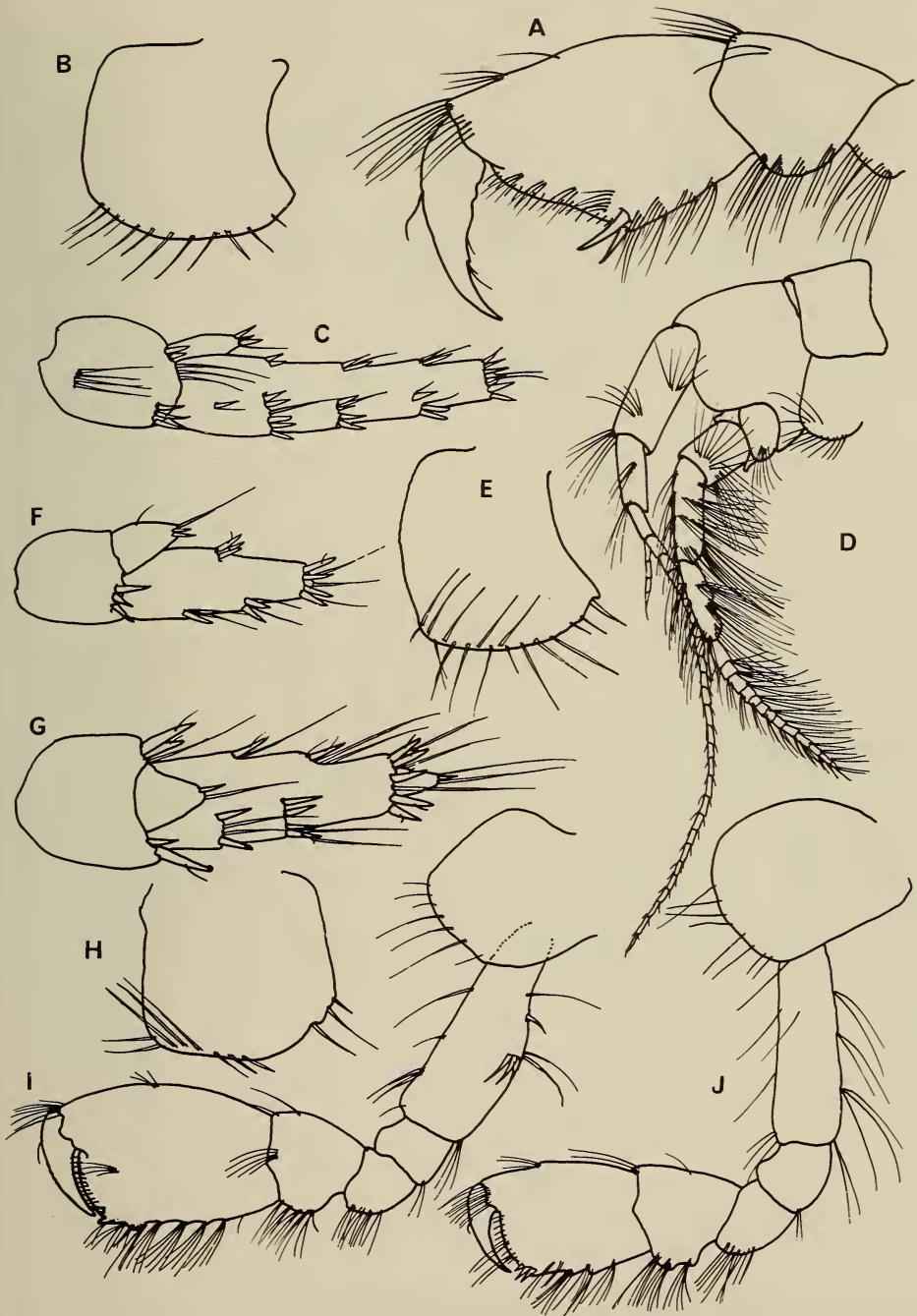


Fig. 2. A-C. *Paramelita barnardi*, female, 9 mm. A. Gnathopod 2. B. Coxa 4. C. Uropod 3. D-F. *Paramelita seticornis*, male, 5 mm. D. Head and antennae. E. Coxa 4. F. Uropod 3. G. *Paramelita kogelensis*, male, 6 mm. Uropod 3. H-I. *Paramelita granulicornis*, male, 6 mm. H. Coxa 4. I. Gnathopod 2. J. *Paramelita aurantius*, male, 7 mm. Gnathopod 2.

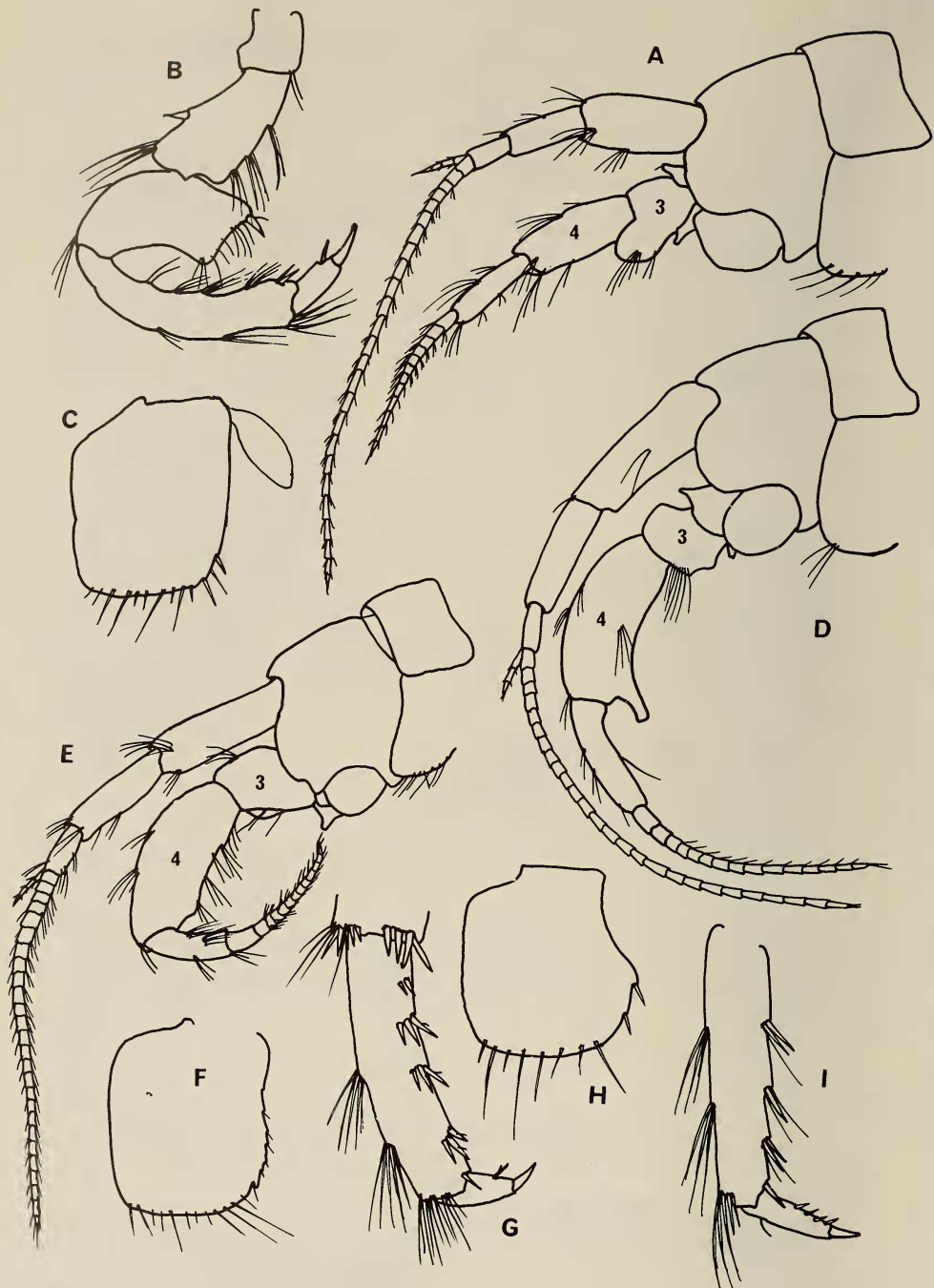


Fig. 3. A. *Paramelita auricularius*, male, 5,5 mm. Head and antennae. B-C. Male, 6 mm. B. Pereiopod 3. C. Coxa 4. D. *Paramelita spinicornis*, male, 8 mm. Head and antennae. E-G. *Paramelita crassicornis*, male, 8 mm. E. Head and antennae. F. Coxa 4. G. Articles 6 and 7 of pereiopod 7. H-I. *Paramelita tulbaghensis*, male, 7 mm. H. Coxa 4. I. Articles 6 and 7 of pereiopod 7.

non-flexed antenna 2, and in the extraordinary subchelate condition of pereopod 3 in the adult ♂.

*Distribution*

Top of Table Mountain only.

*Paramelita barnardi* Thurston, 1973

Fig. 2A-C

*Paramelita barnardi* Thurston, 1973: 159-168, figs 1-3.

*Remarks*

Similar to *P. capensis* but distinguished by the weakly excavate coxa 4 and spinose (not setose) uropod 3.

*Distribution*

Known only from the type locality, a cave above Kalk Bay on the Cape Peninsula.

*Paramelita capensis* (K. H. Barnard, 1916)

Fig. 4

*Gammarus capensis* Barnard, 1916: 203-205, pl. 27, figs 20-22; 1927: 169.

*Paramelita ctenodactyla* Schellenberg, 1926: 367, fig. 57.

*Remarks*

The degree of setation of the pleon segments and of pereopods 5-7 is very variable, ranging from the condition shown in Figure 4A to one in which the dorsal surface of the pleon and the anterior margins of articles 2-6 of pereopods 5-7 are densely clothed in setae. Antenna 2 may be as long as and sturdier than antenna 1. A wide variety of forms may be collected from the same stream, suggesting that the various forms are not of any taxonomic significance.

*C. capensis* may be recognized by its large size (15-25 mm) at maturity, unmodified antennae, oblique palm of gnathopod 2, deeply excavate coxa 4, and setose uropod 3.

*Distribution*

Widely distributed from Clanwilliam in the north to Bredasdorp in the east.

*Paramelita crassicornis* (K. H. Barnard, 1916)

Fig. 3E-G

*Gammarus crassicornis* Barnard, 1916: 207-209, pl. 27, figs 24-25.

*Remarks*

The unusual form of antenna 2 ♂, in which the peduncle is enlarged and bent between articles 4 and 5, is found only in this species, *P. flexa* sp. nov. and *P. tulbaghensis*. *P. crassicornis* is recognized by the quadrate coxa 4, the single

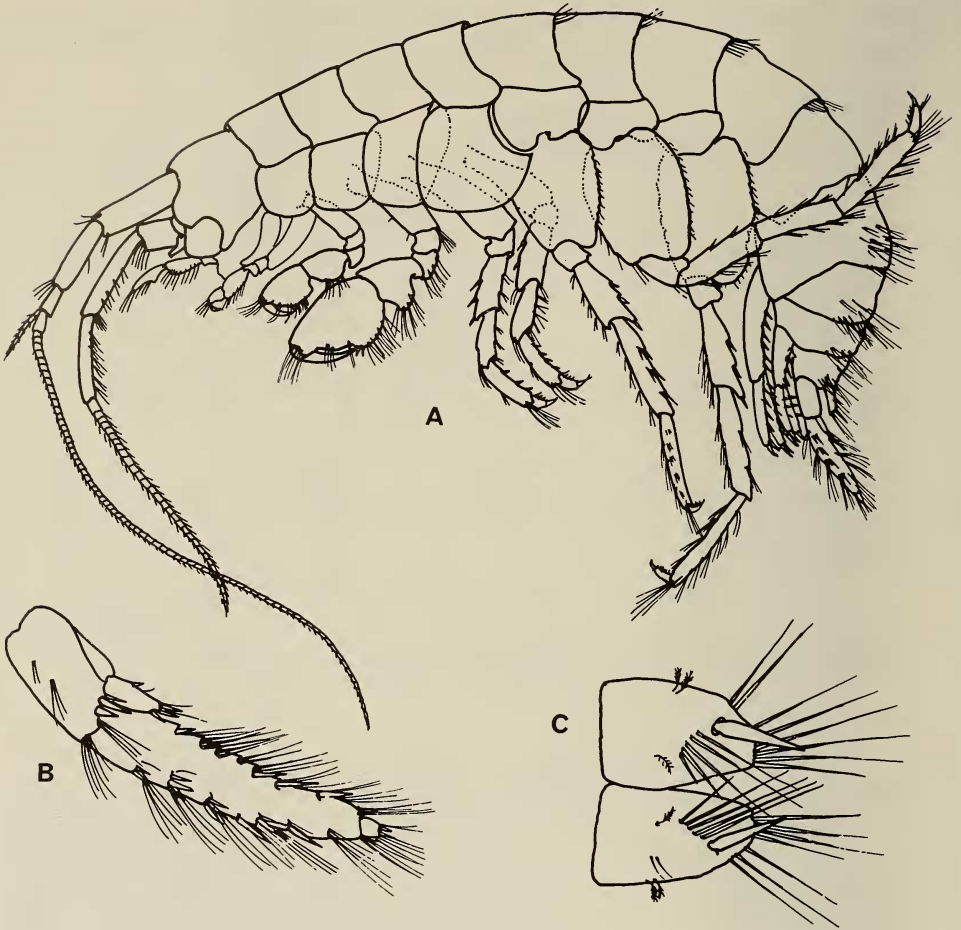


Fig. 4. *Paramelita capensis*, male, 18 mm. A. Lateral aspect. B. Uropod 3. C. Telson.

spinule on article 7 of pereopods 3–7 and the absence of a posterodistal lobe on article 3 of antenna 2 ♂.

*Distribution*

Northern and western slopes of Table Mountain.

*Paramelita flexa* sp. nov.

Fig. 5

*Description* (of male, 7 mm)

Head slightly shorter than pereon segments 1 and 2 together, anterolateral lobes deep, rounded-truncate, eyes invisible in alcohol. Antenna 1 as long as body, flagellum 1.5 times length of peduncle, 26-articulate, accessory flagellum 5-articulate. Antenna 2 somewhat shorter but stouter than 1, article 3 strongly



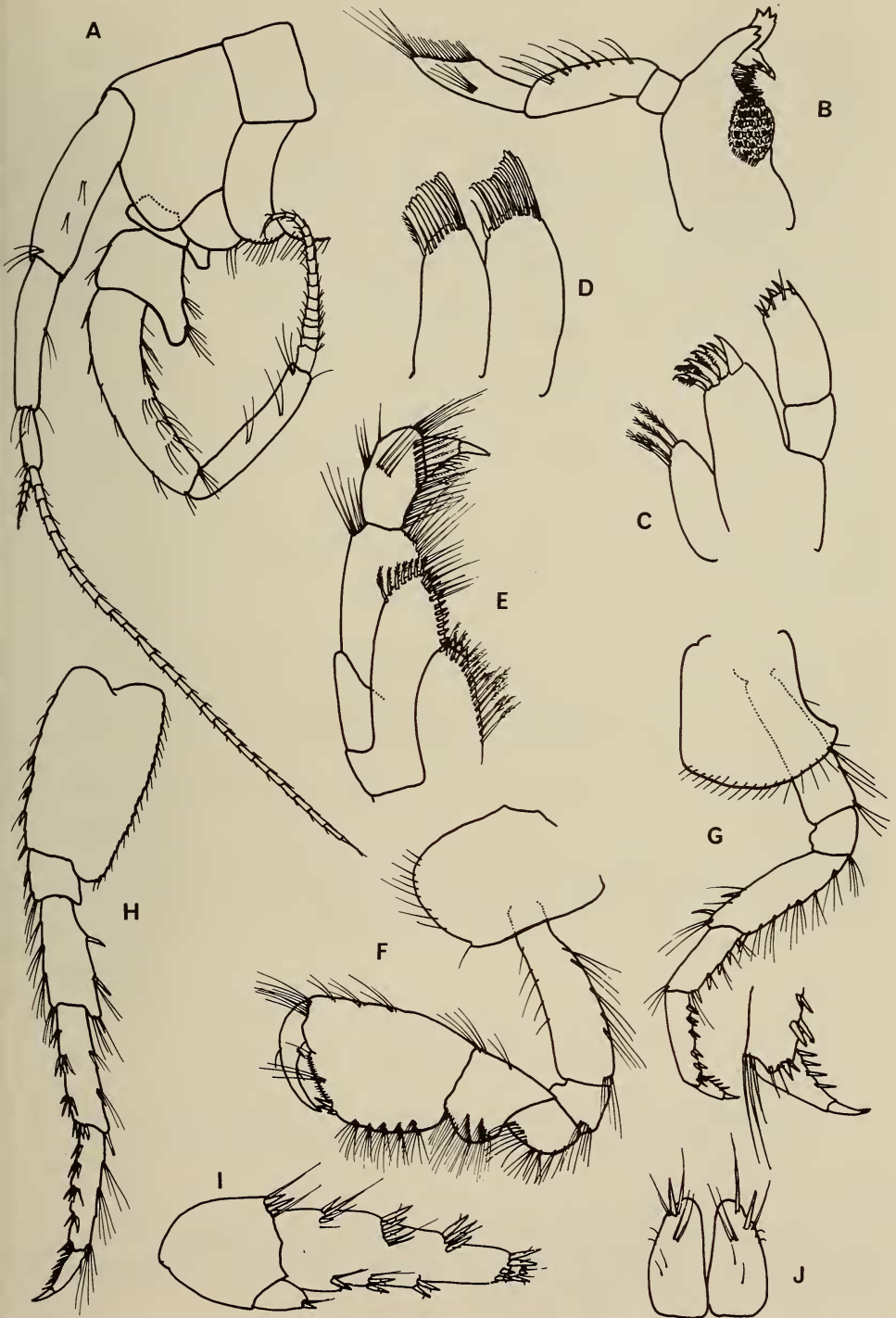


Fig. 5. *Paramelita flexa* sp. nov., male, 7 mm. A. Head and antennae. B. Mandible. C. Maxilla 1. D. Maxilla 2. E. Maxilliped. F. Gnathopod 2. G. Coxa 4 and pereopod 4. H. Pereiopod 3. I. Uropod 3. J. Telson.

lobed posterodistally, article 4 three times length of 3, curved ventrally, article 5 bent almost at right angles to 4, flagellum 16-articulate. Cutting-edge of mandible 5-toothed, lacinia mobilis (left side) with four teeth, spine row of nine strongly pectinate spines, molar strongly triturative, palp articles 2 and 3 subequal, distal half of 3 lined with dense row of short setae. Inner plate of maxilla 1 with four plumose setae, outer plate bearing ten stout toothed spines, palp exceeding outer plate, with five terminal spines and three subterminal setae. Inner plate of maxilla 2 a little shorter and narrower than outer plate, both strongly setose terminally. Inner plate of maxilliped with three short blunt spines and fifteen plumose setae, outer plate bearing twelve medial spine-teeth and seven terminal pectinate setae, palp densely setose medially.

Pereon segments dorsally smooth, coxae 1-3 slightly deeper than corresponding segments, rounded-quadrate, coxa 4 distinctly excavate posteriorly, 5 and 6 bilobed, 7 rounded-quadrate. Gnathopods 1 and 2 of similar structure but 2 slightly the larger, article 6 slightly longer than wide, palm convex, slightly oblique, defined by three short stout spines, dactyl as long as palm. Pereiopods 3 and 4 of similar structure, article 4 slightly produced anterodistally, 5 with five posterior spines, 6 with six pairs of spines posteriorly, 7 with four spinules posteriorly. Pereiopods 5-6, articles 4, 5 and 6 subequal, dactyl with seven spinules anteriorly. Pereiopod 7 similar to 5 and 6 but dactyl with nine spinules.

Pleon segments 1-3 each with a few setae along posterodorsal margin, first pleonal epimeron rounded, 2 and 3 quadrate, each with long plumose setae just above distal margin, posterior margin with short setae in minute notches. Pleon segments 4-6 each with a few dorsal setae, uropod 1 extending slightly beyond 2, rami equal, inner ramus of uropod 2 slightly the shorter, uropod 3 exceeding 2 by half length of outer ramus, peduncle as broad as long, inner ramus short, half length of peduncle, terminating in a short spine and one seta, outer ramus twice length of peduncle, three groups of spines on each margin, apex strongly spinose, concealing minute second article. Telson slightly longer than broad, cleft almost to base, each lobe with one large subapical spine between two long setae, dorsal margin with two long and two short setae, plus one pair of minute setae on lateral margin.

### *Holotype*

Albany Museum MISC 52B, male, 7 mm.

### *Type locality*

Palmiet River (34° 09'S 19°01'E), beneath bridge on main Elgin-Grabouw road, south-western Cape, 20 October 1952.

### *Material*

Two juveniles from the same sample as the type specimen and an ovigerous female and four further juveniles collected by the author on 7 December 1979 from the same locality (SAM-A16776).

### Etymology

From the Latin *flexus* (bending), an allusion to the flexion of antenna 2 between articles 4 and 5.

### Relationships

The posterodistal lobe on article 3 of antenna 2 of this species is similar to that found in *P. auricularius*. Antenna 2 in *P. auricularius* is, however, linear, whereas in *P. flexa* sp. nov. article 5 is attached at right angles to article 4, in a manner similar to that occurring in *P. crassicornis* and *P. tulbaghensis*. *P. auricularius* may also be distinguished from *P. flexa* sp. nov. in the form of coxa 4 and pereopod 3 as well as by its distribution, which is limited to Table Mountain.

#### *Paramelita granulicornis* (K. H. Barnard, 1927)

Fig. 2H-I

*Gammarus granulicornis* Barnard, 1927: 175-177, pl. 10, figs 10-11, 20.

### Remarks

The second gnathopod of this species, with its spinose article 2 and convex, transverse palm, defined by an acute tooth, is diagnostic. The square coxa 4 and spinose posterior margin of article 2 of pereopod 4 also aid in identification.

### Distribution

Hottentots Holland Mountains.

#### *Paramelita kogelensis* (K. H. Barnard, 1927)

Fig. 2G

*Gammarus kogelensis* Barnard, 1927: 172-173, pl. 10, figs 9, 21.

### Remarks

Closely related to *P. seticornis* but differs in the degree of setation of the peduncle of antenna 2 (both species have the flagellum setose) and in details of the spination of the pereopods and of uropod 3.

### Distribution

Hottentots Holland Mountains.

#### *Paramelita nigroculus* (K. H. Barnard, 1916)

Fig. 6

*Gammarus nigroculus* Barnard, 1916: 206-207, pl. 27, fig. 23; 1927: 168-169.

### Remarks

The dark eyes distinguish the species, which is otherwise similar to *P. capensis*. Although a variety based on degree of setation (var. *persetosus*) is recognized, the degree of setation is very variable, even within individual samples.

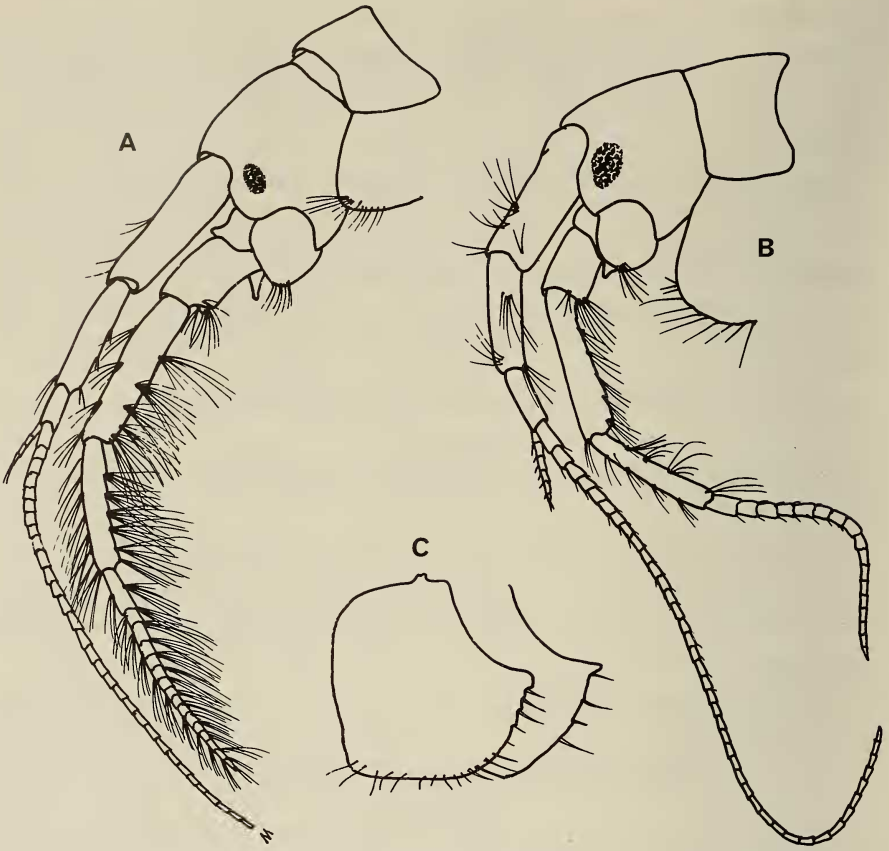


Fig. 6. A. *Paramelita nigroculus* var. *persetosus*, male, 13 mm. Head and antennae. B–C. *Paramelita nigroculus*, male, 12 mm. B. Head and antennae. C. Coxa 4 (both sides).

#### *Distribution*

The most common and widely distributed *Paramelita* species, occurring from Tulbagh and the Cedarberg in the north to Swellendam in the east.

#### *Paramelita seticornis* (K. H. Barnard, 1927)

Fig. 2D–F

*Gammarus seticornis* Barnard, 1927: 171–172, pl. 10, figs 7, 17.

#### *Remarks*

A small form, mature at 5 mm, distinguished from the allied *P. kogelensis* by the form of antenna 2 ♂.

#### *Distribution*

Hottentots Holland Mountains.

*Paramelita spinicornis* (K. H. Barnard, 1927)

Fig. 3D

*Gammarus spinicornis* Barnard, 1927: 174–175, pl. 10, figs 8, 18–19.*Remarks*

The form of antenna 2 ♂ in this species is characteristic.

*Distribution*

Hottentots Holland Mountains eastwards to Swellendam.

*Paramelita tulbaghensis* (K. H. Barnard, 1927)

Fig. 3H–I

*Gammarus tulbaghensis* Barnard, 1927: 170–171, pl. 10, figs 5, 15.*Remarks*

The enlarged and bent peduncle of antenna 2 ♂ is similar to that of *P. crassicornis*, but coxa 4 is excavate posteriorly and there are more spinules on the dactyls of the pereopods (two in pereopods 3 and 4, three in pereopod 5, and four in pereopods 6 and 7). Lacks the lobe on article 3 of antenna 2 ♂ found in *P. flexa* sp. nov.

*Distribution*

Known only from the type locality in the Sneeuwgat Valley, Tulbagh, south-western Cape.

*Pseudocrangonyx*–*Sternophysinx* family group (Bousfield, 1977)*Sternophysinx* Holsinger & Straskraba, 1973

Originally erected to accommodate *Crangonyx robertsi* and two new species from the Transvaal, *Sternophysinx* was transferred from the Gammaridae to a new Superfamily Bogidielloidea by Bousfield (1977) and again to the Superfamily Crangonyctoidea by Bousfield (1978). The genus has not been recorded outside the Transvaal and is hence geographically isolated from *Paramelita*. Morphologically *Sternophysinx* may readily be distinguished from *Paramelita* by the smaller, non-overlapping coxae and distinctive bladder-like sternal processes on pereon segments 2–7.

KEY TO SPECIES OF *STERNOPHYSINX*

- 1 Article 2 of pereopods 5–7 widened, with distinct posterodistal lobe (Fig. 7A–B). . . . . 2
- Article 2 of pereopods 5–7 narrowly tapering, without posterodistal lobe (Fig. 7C–D). . . . . 3
- 2 Articles 6, or 5 and 6 of pereopods 5–7 bearing long threadlike setae posteriorly, dactyls with 2–5 anterior spines (Fig. 7A). . . . . *filaris*
- Articles 5 and 6 of pereopods 5–7 lacking thread-like setae, dactyls with single anterior spine (Fig. 7B). . . . . *robertsi*
- 3 Palm of gnathopods 1 and 2 evenly convex, body length about 5 mm at maturity. . . . .
- transvaalensis*
- Palm of gnathopods 1 and 2 excavate (Fig. 8H, I), body length at maturity about 10–12 mm
- alca* sp. nov.

*Sternophysinx alca* sp. nov.

Figs 7D, 8

*Description* (of female, 15 mm)

Antenna 1 about half length of body, flagellum 22-articulate, accessory flagellum uni-articulate, about as long as first segment of primary flagellum. Antenna 2 somewhat shorter than 1, gland cone prominent, flagellum 9-articulate. Mandible with large tritirative molar, spine row of eight spines, palp well developed, articles 2 and 3 subequal. Palp of maxilla 1 bi-articulate, bearing seven terminal spines, outer plate with six serrate spines apically, inner plate with two terminal plumose setae. Both inner and outer plates of maxilla 2 strongly setose apically, inner plate with two long subterminal plumose setae. Inner plate of maxilliped armed with three short thick spines, outer plate with thirteen medial and terminal spines, palp 4-segmented.

Pereon dorsally smooth. Coxa 1 slightly produced anteroventrally, coxae 2-4 quadrate, 4 not strongly excavate posteriorly, 5 and 6 bilobed, 7 semi-circular. Gnathopod 1 short but stout, palm defined by large pair of spines,

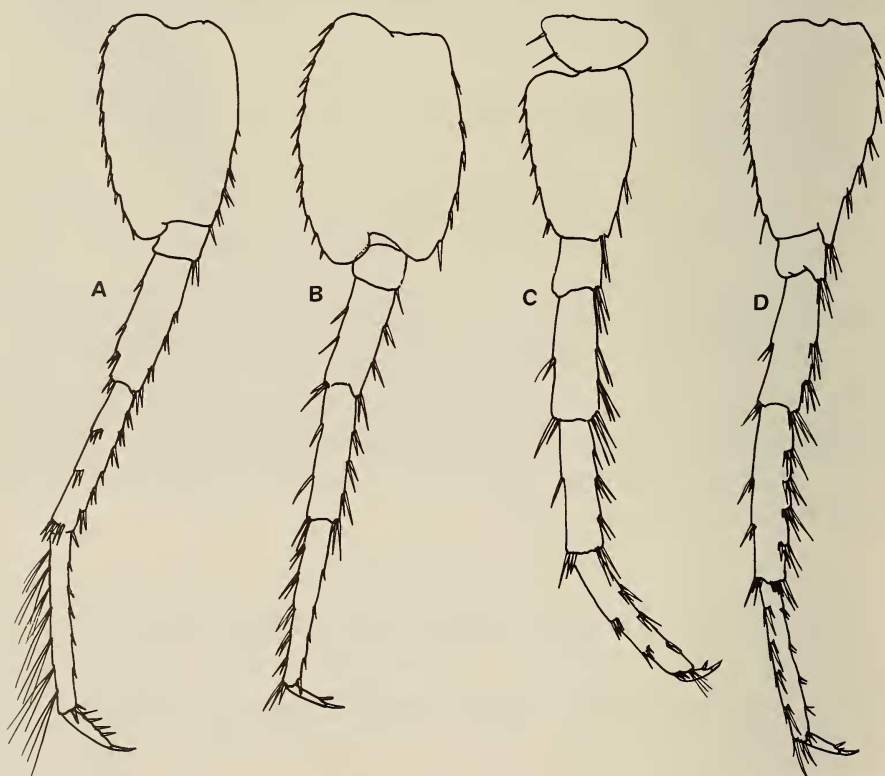


Fig. 7. Pereiopod 7 in *Sternophysinx* species. A. *S. filaris*, male, 8 mm. B. *S. robertsi*, male, 8 mm. C. *S. transvaalensis*, male, 5 mm. D. *S. alca*, female, 13 mm.

posterior margin bearing three further pairs of large spines, palmar margin lined by short setae, with semicircular excision and small tooth at its midpoint, dactyl exceeding palm, nail long, bearing small secondary process at its base. Gnathopod 2 as 1 but article 2 slender, more elongate and without anterior setae. Pereiopods 3 and 4 with article 2 slightly expanded and with long slender setae equally spaced along posterior margin. Pereiopod 5 considerably shorter than 6 or 7, article 2 not expanded, lacking posterodistal lobe, dactyl with two spines. Pereiopods 6 and 7 similar to 5 but much longer, extending to end of uropods, dactyl with single spine. Pereon segments 2–7 each with bladder-like median sternal process.

Pleon segments 1–4 each with few small setae along posterodorsal margin. Pleonal epimera rounded-quadrate, two small setules at posterodistal corner of each, posterior margins almost straight. Uropod 1 extending slightly beyond 2, outer ramus slightly the shorter, both rami dorsally and terminally spinose. Uropod 3 considerably exceeding 1 and 2, outer ramus with five groups of setae along ventral and four along dorsal margin, inner ramus minute, rounded, bearing single terminal seta. Telson slightly longer than broad, apically emarginate, each lobe with four large terminal spines.

#### *Holotype*

SAM-A16775, female, 13 mm.

#### *Type locality*

Peppercorn's Cave, Makapansgat, Transvaal (24°09'S 29°12'E) collected from a small clear pool, June 1979, by A. J. Cannone of the Zoology Department, University of the Witwatersrand.

#### *Material*

Twenty-five individuals from Peppercorn's Cave and from Ficus Cave, Makapansgat.

#### *Etymology*

Named for Dr Al Cannone, who discovered this species and allowed the author to describe it.

#### *Relationships*

The excavation and tooth on the palm of gnathopods 1 and 2 readily identify this species. *S. alca* sp. nov. is also distinguished from *S. robertsi* and *S. filaris* by the narrowly tapering article 2 of pereiopods 5–7, and from *S. transvaalensis* by its larger body size and by details of spination of the pereiopods. The species is found in the same pools as *S. robertsi*.



Fig. 8. *Sternophysinx alca* sp. nov., female, 15 mm. A. Lateral aspect. B. Accessory flagellum. C. Mandible. D. Lower lip. E. Maxilla 1. F. Maxilla 2. G. Maxilliped. H-I. Gnathopods 1, 2. J. Uropod 3. K. Telson.



*Sternophysinx filaris* Holsinger & Straskraba, 1973

## Fig. 7A

? *Eucrangonyx robertsi* (*partim.*) Methuen, 1911a: 948–957, pls 49–51.

*Sternophysinx filaris* Holsinger & Straskraba, 1973: 75–76, figs 2–3.

*Remarks*

Distinguished by the thread-like setae along the posterior margins of articles 5 and 6 of pereopods 5 and 6 and of article 6 of pereopod 7. The material reported from Irene by Methuen (1911a) should probably be allocated to *S. filaris*, rather than *S. robertsi*, the latter being positively known only from the Makapan Caves area some 200 km to the north.

*Distribution*

Sterkfontein Caves, and (?) Irene, Transvaal.

*Sternophysinx robertsi* (Methuen, 1911)

## Fig. 7B

*Eucrangonyx robertsi* Methuen, 1911a: 948–957, pls 49–51; 1911b: 96–101.

Barnard, 1927: 141, 209.

[*Non*]*Crangonyx robertsi*: Barnard, 1949: 523–525 (= *Sternophysinx transvaalensis*).

*Remarks*

The expanded article 2 of pereopods 5–7 distinguishes this species from *S. transvaalensis* and *S. alca* sp. nov., while the posterior pereopods are shorter than those of *S. filaris*, lack thread-like seta on articles 5 and 6 and have only a single spine on article 7. The material identified as *S. robertsi* by Barnard (1949) –SAM–A8372—has been re-examined and transferred to *S. transvaalensis*.

*Distribution*

Makapan Caves and springs in the vicinity.

*Sternophysinx transvaalensis* Holsinger & Straskraba, 1973

## Fig. 7C

*Crangonyx robertsi* (*non* Methuen, 1911a): Barnard, 1949: 523–525.

*Sternophysinx transvaalensis* Holsinger & Straskraba, 1973: 76–79, figs. 4–5.

*Remarks*

The small size, smoothly convex palm of gnathopods 1 and 2, unexpanded article 2 of pereopods 5–7, and absence of long setae on these appendages serve to identify this species. The material identified as *Crangonyx robertsi* by Barnard (1949) has been re-examined and the structure of pereopod 7 (Fig. 7C) clearly identifies it as belonging to *S. transvaalensis*.

*Distribution*

Surface streams in the northern Drakensberg region.

## Suborder INGOLFIELLIDEA Hansen, 1903

Family **Ingolfiellidae** Hansen, 1903*Leleupiella* Karaman, 1959*Leleupiella eggerti* Ruffo, 1964

*Leleupiella eggerti* Ruffo, 1964: 1019–1031, figs 1–2.

*Ingolfiella opisthodoris* Barnard, 1966: 189–197, figs 1–2.

*Remarks*

First described by Ruffo (1964) from Tsumeb, this species was subsequently redescribed as new in a posthumous paper by Barnard (1966). No further material has been recorded. *L. eggerti* is the only ingolfiellid recorded from South or South West Africa and is notable for its large size (up to 25 mm). The elongate body form, minute coxae and carpochele gnathopods readily distinguish the Ingolfiellidae from members of the Crangonyctoidea.

*Distribution*

Recorded from boreholes near Tsumeb, South West Africa.

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